MARSHALL STAR

Marshall Space Flight Center **May 11, 2000**

"We bring people to space — We bring space to people"

Photo by Doug Stoffer, NASA/Marshall Space Flight Center

Spreading the word on Open House 2000

Volunteers have been spreading the word about the May 20 Open House at Marshall by distributing posters at events such as April's "Great Moonbuggy Race." See pages 4 and 5 for details of Open House attractions.

'Turning Goals into Reality'

Author Ben Bova to sign new book at conference

by Rick Smith

When Ben Bova puts ink to paper, worlds collide. Distant planets come to life. Medical miracles are realized. A future brimming with limitless potential for all humanity seems just years away.

See related story on page 3

Thursday, May 18, from 2 to 4 p.m., Dr. Bova — the author of more than 90 books and the six-time recipient of the Hugo Science Fiction Achievement Award — will sign copies of his latest novel,

*See **Bova** on page 6*

Vietnamese couple follows dream to Marshall

by Debra Valine

She was just 17 when she ran away from her parents — and communism — looking for a future. He left Vietnam about the same time and their lives became entwined.

Diep Trinh is a structural mechanical engineer in Marshall's Engineering Directorate. Huu Trinh is an aerospace engineer in the Space Transportation Directorate. They grew up in the same small town in South Vietnam, and went to the same high school.

They survived the Vietnam War, the fall of Saigon in 1975 and more than eight months in an Indonesian refugee camp.

"I left Vietnam before Huu," Diep says. "Then, suddenly we met again in the refugee camp." Before she left Indonesia, Diep told Huu that when she arrived in the United States, she would try to find a sponsor for him. She did, and they eventually reunited in Illinois.

"I was the only Vietnamese girl, and he was the only Vietnamese boy in the small town of Alton, Ill.," Diep says. "We started dating about one year after Huu arrived in the United States. We married in 1986, and now we have three girls ages 12, 9 and 2. Huu is more to me than my husband. I consider

*See **Trinhs** on page 6*

Courtesy photo

Diep Trinh, left, and husband Huu Trinh, right, with their three girls. The Marshall couple came from the same small village in South Vietnam in 1979 to begin life anew in the United States.

Impact! Chandra images a young supernova blast wave

Two images made by the Marshall-managed Chandra X-ray Observatory, one in October 1999, the other in January 2000, show for the first time the full impact of the actual blast wave from Supernova 1987A (SN1987A). The observations are the first time that X-rays from a shock wave have been imaged at such an early stage of a supernova explosion.

Recent observations of SN 1987A with the Hubble Space Telescope revealed gradually brightening hot spots from a ring of matter ejected by the star thousands of years before it exploded.

Chandra's X-ray images show the cause for this brightening ring A shock wave is smashing into the outer parts of the ring at a speed of 4,500 kilometers per second (10 million miles per hour). The gas behind the shock wave has a temperature of 10 million degrees Celsius, and is visible only with an X-ray telescope.

"With Hubble we heard the whistle from the oncoming train," said David Burrows of Pennsylvania State University in University Park, Pa., the leader of the team of scientists involved in analyzing the Chandra data on SN 1987A. "Now, with Chandra, we can see the train."

The X-ray observations appear to confirm the general outlines of a model developed by team member Richard McCray of the University of Colorado in Boulder, and others, according to which a shock wave has been moving out ahead of the debris expelled by the explosion. As this shock wave collides with material outside the ring, it heats it to millions of degrees. "We are witnessing the birth of a supernova remnant for the first time," McCray said.

The Chandra images clearly show the previously unseen, shock-heated matter just inside the optical ring. Comparison with observations made with Chandra in October and January, and with Hubble in February, show that the X-ray emission peaks close to the newly discovered optical hot spots, and indicate that the wave is beginning to hit the ring.

In the next few years, the shock wave will light up still more material in the ring, and an inward moving, or reverse shock will heat the material ejected in the explosion itself. "The supernova is digging up its own past," McCray said.

The observations were made on Oct. 6, 1999, using the Advanced CCD Imaging Spectrometer (ACIS) and the High Energy Transmission Grating, and again on Jan. 17 using ACIS.

Other members of the team were Eli Michael of the University of Colorado; Dr. Una Hwang, Dr. Steven Holt and Dr. Rob Petre of NASA's Goddard Space Flight Center in Greenbelt, Md.; and Professors Gordon Garmire and John Nousek of Pennsylvania State University. The results will be published in an upcoming issue of the Astrophysical Journal.

The ACIS instrument was built for NASA by the Massachusetts Institute of Technology, Cambridge, and Pennsylvania State University. The High Energy Transmission Grating was built by the Massachusetts Institute of Technology. TRW Inc., Redondo Beach, Calif., is the prime contractor for the spacecraft. The Smithsonian's Chandra X-ray Center controls science and flight operations from Cambridge, Mass.

For images connected to this release, and to follow Chandra's progress, visit the Chandra sites at:
http://chandra.harvard.edu
and http://chandra.nasa.gov

UAH Research Institute being renamed in honor of Dr. Wernher von Braun

The building that houses the core research activities of the University of Alabama in Huntsville (UAH) is being dedicated to honor space visionary Dr. Wernher von Braun.

A speech by von Braun to a joint session of the Alabama Legislature in 1961 resulted in a $3 million appropriation that created the research institute.

Representatives from the Marshall Center, the university and the U.S. Army, as well as members of the rocket team that arrived in Huntsville in 1950, will be on hand to recognize the achievements of the rocket scientist — a leader who helped fulfill a nation's quest to put a human on the Moon.

The building's official name will be changed Saturday to "Wernher von Braun Research Hall." The honor is part of the community's yearlong "Von Braun Celebration of the Arts and Sciences."

"Dr. von Braun drastically changed our perception of the universe and the world in which we live," said UAH President Dr. Frank Franz. "The scientific accomplishments of Dr. von Braun in the 1950s and 1960s remain unequaled today, and the world continues to reap rewards and benefits from his vision."

Franz said Huntsville and the university have prospered from that leadership and today's prosperity is a direct result of von Braun's legacy.

"The Safer You Are, The Better You Live"
— Safety slogan submitted by
Jeff Wesley, ED15

Obituaries

Spray, Lillian M., 73, of Hazel Green, died April 15. She retired from Marshall in 1982 where she worked as an administrative officer.

Wood, Andrew J., 83, of Huntsville, died April 22. He retired from Marshall in 1973 where he worked as a supervisory contract specialist.

House, Edward G., 74, of Athens, died April 24. He retired from Marshall in 1980 where he worked as a supervisory management analyst. He is survived by his wife, Rachel Evans House.

Schilling, Martin, of Lexington, Mass., formerly of Huntsville and an original member of Dr. Wernher von Braun's team of rocket scientists, died April 30. He is survived by two sons, Gerd Schilling of Princeton, N.J., and Hartmut Schilling of Carlisle, Mass.; and a sister, Gertrud Schilling of Dortmund, Germany.

CSC awarded contract option worth $137 million

The Marshall Center has exercised an option to continue an existing contract with Computer Sciences Corporation (CSC) of Falls Church, Va., to provide information services to Marshall and all other NASA facilities.

The priced option, valued at $136,934,782, covers the period of May 1, 2000, through April 30, 2001. It continues services under a contract titled Program Information Systems Mission Services, originally awarded to Computer Sciences in 1994.

Work performed by CSC and its subcontractors under the Mission Services contract includes support for Marshall computer systems, applications software, telephone systems and audio-visual services. It also includes a range of services for all NASA facilities, including support of information management systems and the NASA Automated Data Processing Consolidation Center at Marshall.

The contract option is the fifth of six priced options, bringing the value of the contract, to date, to $905,074,108. If all options are exercised, the Mission Services contract will have an approximate total value of $1.050 billion.

'Turning Goals into Reality'

Marshall team invited to see conference exhibits

Marshall employees, contractors and retirees may view exhibits featured during the "Turning Goals into Reality" Conference from 2-5 p.m. May 18 in the Bldg. 4752 area.

Exhibits, from NASA Centers and industry partners, will feature displays from Marshall; Glenn Research Center; Langley Research Center; Kennedy Space Center; Ames Research Center; NASA Headquarters; Dryden Flight Research Center; Pratt & Whitney; TRW Inc.; Science Applications International Corp.; Boeing; Northrop Grumman; Oceaneering Corp.; Intenav Corp.; Rolls Royce; and "NASA Connect."

The Marshall Center is hosting the conference May 18-19 where hundreds of aerospace and transportation officials, engineers and scientist, will gather to celebrate their accomplishments.

Key Personnel Announcement

Dr. Paul K. McConnaughey has been appointed director of the Structures, Mechanics and Thermal Department in Marshall's Engineering Directorate.

Prior to this appointment, he served concurrently as technical assistant to the engineering director and on a detail to the Office of the Director of the Space Transportation Directorate, where he assisted the director in the day-to-day operation of the department.

McConnaughey joined Marshall in 1986 as a mathematician assigned to the Systems Dynamics Laboratory. In less than three years, he advanced to a supervisory position and subsequently held positions as supervisory team lead; branch chief and division chief within the Structures and Dynamics Laboratory in the Science and Engineering Directorate.

Dr. Paul K. McConnaughey

Following the Marshall reorganization in 1999, McConnaughey was reassigned as technical assistant to the engineering director. His entire Marshall background centers on fluid dynamics in support of Marshall propulsion, launch vehicle, payload and spacecraft programs.

He is responsible for significant accomplishments in the area of computational fluid dynamics and has authored and co-authored numerous publications and technical papers on the subject. He has received many awards and special recognition's for his accomplishments, including the NASA Exceptional Service Medal and Director's Commendation.

McConnaughey holds a bachelor's degree in soil science from Oregon State University in Corvallis, Ore., and master's and doctorate degrees in soil physics from Cornell University in Ithaca, N.Y. He has completed numerous executive and management level courses and is a recent graduate of NASA's Senior Executive Service Candidate Development Program.

★ ★ ★
Marshall Star
★ ★ ★

Billy Hix, an Intergovernmental Personnel Act employee in the Education Programs Office, was awarded the Motlow College Teaching Excellence Award at the college's annual award banquet held in Tullahoma, Tenn.

This is the fourth time that Hix has been awarded this honor, which can be won every five years. Faculty, students and alumni select the winner of the award, and no other faculty member has ever won the award four times. Hix has been selected twice for Who's Who in American Education, and received the National Teaching Excellence Award by the University of Texas at Austin as one of the top 100 community college teachers in the United States. Last year he was awarded the Innovation in Education award from the Tennessee State Department of Education.

While working at Marshall since January, he has talked to more than 3,000 students and 400 teachers in Alabama and Tennessee in an effort to promote the space program.

Open House 2000

Experience thrill of space exploration — for free

by Sherrie Super

On Saturday, May 20, you can experience some of the thrill of space exploration without leaving Earth — or opening your wallet. "Open House 2000" at the Marshall Center will take you on a daylong space adventure for free.

Food and official NASA souvenirs also will be available for purchase.

From 9 a.m.-6 p.m. you can create your own space voyage, whether lifting off on a simulated trip to Mars, mingling with robots and astronauts, or strolling through a full-scale mock-up of the International Space Station.

"Our Marshall Open House is an opportunity to get an up-close look at the cutting edge technology driving our nation's space program," says Marshall Center Director Art Stephenson. "We are, indeed, opening doors to the future, and I'm particularly excited about introducing our children to what we do here."

Attractions and entertainment include:

NASA Marshall Center

The Morphis™ MovieRide Theater is just one of the free, out-of-this world experiences on tap May 20.

Space-related attractions:

• *Space Shuttle Pavilion:* Learn what makes up the primary elements of Space Shuttle as it is prepared for launch and space missions. See a full-size main engine, displays of the external tank and video footage of a solid rocket motor and solid rocket booster.

• *Magnetic levitation track:* Learn how sports cars that speed from 0-60 mph in four seconds have met their match. See a new advanced space transportation concept that accelerates a model spacecraft from 0-60 mph in less than half of a second — just one of the launch technologies the Marshall Center is developing to make space travel more affordable.

• *International Space Station:* See the real International Space Station hardware under construction, then stroll through a full-scale mock-up of the station.

• *X-Vehicles:* See new scale models of the X-33, X-34 and X-37 technology demonstrators — vehicles aimed at opening a "highway to space" by slashing launch costs.

• *Robots:* Talk with Oscar, a roaming, entertaining robot. And see locally built robots demonstrate their skills by competing against each other in a special robotic test facility.

• *Wind tunnel:* Witness an actual test at a Marshall wind tunnel, where winds up to five times the speed of sound — about 3,800 mph — are used to perfect NASA launch vehicles.

• *Environmental Test Facility:* See where NASA simulates the emptiness of space and its extreme temperature ranges to test space flight hardware.

• *Interactive educational demonstrations and movies:* Learn about "toys" that fly in space with astronauts and other topics that will enlighten all ages.

• *Moonbuggy vehicles:* See vehicles that were designed, built and raced by students from around the nation at Marshall's annual "Great Moonbuggy" race in April. The buggies address the same engineering challenges faced by the original NASA Lunar Roving Vehicle Moonbuggy team at Marshall. See an original NASA-built Moonbuggy in the Marshall Heritage Gallery.

• *Space telescopes:* See where NASA's Great Observatory — the Chandra X-ray Observatory — was tested, including the one-third-mile long X-ray tunnel that simulates the stellar sources Chandra observes in space. Learn how NASA is making mirrors for the next generation of space telescopes.

• *Astronaut life support:* See where NASA develops air and water systems for the Space Station crew. Learn about advanced technologies for turning today's wastewater into tomorrow's drinking water.

• *Spacelab Payload Operations Control Room:* See where

Marshall managed and controlled science experiments for all Spacelab missions. Sit at a Spacelab console and relive a Spacelab mission — complete with Earth-to-space audio transmissions.

• *Rockets:* See and learn about history-making NASA rockets that gave Huntsville its "Rocket City" nickname. See miniature versions of those rockets launched with flashes of fire and billowing smoke by the Huntsville Area Rocketry Association.

• *Redstone Rocket Test Stand:* Visit the historic facility where engines were tested for the rocket that successfully launched Alan Shepard to become America's first human in space.

• *Spacecraft models:* See detailed models of conceptual spacecraft designs, as well as the fanciful spaceships of Star Trek, Star Wars and other popular science fiction shows, courtesy of the Huntsville Plastic Modelers Society.

• *Model airplanes:* See model airplanes that introduce young people to the joys of building aircraft and watching them fly, courtesy of the Tennessee Valley Aviators.

Personalities:

• *Astronauts:* Learn about space travel from those who have experienced it. NASA astronauts will be on hand to answer questions and sign autographs.

• *"Rocket Boy:"* Meet — and get your book signed by — Homer Hickam, the former Marshall engineer who wrote the novel "Rocket Boys," on which the hit film "October Sky" was based.

• *Mark Herndon:* See the drummer for the country music group Alabama, with 42 No. 1 singles and over 60 million records sold worldwide.

For children:

• *Mission to Marshall Scavenger Hunt:* Children who take a fun and educational journey through Marshall tour stops can win a special NASA souvenir.

• *Rides:* Future astronauts can jump and play in the 20-foot tall "Astronaut Moon Bounce" or take a miniature pedal plane for a "flight."

• *Clowns:* Enjoy the antics of "Freedom Rose" and "Sparkles."

Events:

• *U.S. Postal Service stamp unveiling:* See new stamp designs featuring the accomplishments of America's space program. Special commemorative envelopes and cancellations will be available exclusively at the Open House.

Entertainment:

• *Bands:* More than 20 groups will entertain Open House visitors with country, rock, jazz, gospel and more. Entertainers include "Max-Q" – the astronaut rock and roll band; "Valor," a contemporary Christian group; and Teresa, five-time National Association of Campus Activities Country Artist of the Year.

• *Dance:* See performances by line dance group "K and K Kickers," "Way out of Line Dancers" and "Strictly Dancing by Jeremy."

• *Broadway-style musical:* Enjoy a sneak preview of performances from "Moon Dreams," a Broadway-style musical set to open this summer, celebrating Huntsville's role in America's space program.

Special attractions:

• *NASCAR:* See the NASCAR No. 28 Texaco Havoline Ford Taurus driven by Ricky Rudd.

• *Rides:* "Journey" to Mars aboard the Morphis™ MovieRide Theater simulator. Experience the thrill of "free falling" at 120 mph with the X-Treme™ Air simulator.

Talk with Oscar, left, the roaming, entertaining robot, at the Open House.

How to get there:

On May 20, visitors may enter Redstone Arsenal for the Marshall Open House through Gate 9 at the Rideout Road exit of Interstate 565; Gate 8, at Drake Avenue and Patton Road, or Gate 7 at Zierdt Road near the Huntsville International Airport.

For more information and directions to the Marshall Center, call toll-free (888) 901-NASA (6272). More information is also available on the Web at:
http://openhouse.msfc.nasa.gov

The writer, employed by ASRI, supports the Media Relations Department.

Bova

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Dr. Ben Bova

"Venus," in Bldg. 4752, as part of the "Turning Goals into Reality" conference.

Bova will be in Huntsville to address conference attendees at an awards banquet.

"Venus," the story of a race between competing industrialists to colonize our sister planet, was released in April by Tor Books. Copies of the novel are available at the NASA Exchange for $24.95.

Bova started writing fiction in the late 1940s while pursuing careers in aerospace, education and journalism. In his writings, he predicted the 1960s space race, solar-powered satellites, electronic books, virtual reality, the "Star Wars" Strategic Defense Initiative, the discovery of water on the Moon and the discovery of life on Mars.

His novels, such as "Moonwar," "Moonrise" and "Mars," combine space adventure with scientific accuracy to explore the impact of future technologies on human beings and society. His nonfiction work illustrates how modern technology can be used to solve economic, social and political problems.

A past editor of Analog and Omni magazines, Bova also writes opinion pieces and book reviews for USA Today, and serves as president emeritus of the National Space Society.

Bova is on the Web at: http://benbova.net

The writer, employed by ASRI, supports the Media Relations Department.

Trinhs

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him my best friend."

When she left home in 1979, she knew she had to leave Vietnam to follow her dream of getting an education. Her parents — then as now — are typical Vietnamese farmers, without formal education. They did not understand why their daughter so desperately wanted to go to school.

Diep, 37, came to the United States in 1980 as one of the Vietnamese "boat people," traveling with a brother and nephew. She did not speak English, and had not a penny in her pocket. It was eight months before she could telegraph her family to let them know she was safe.

A family in Alton sponsored her, and another Alton family sponsored Huu, providing shelter, guidance and legal advice as they made the transition from Vietnamese culture to American culture. To this day, Diep calls her sponsor, Bud Hardman, "Dad" and her children call him "Papa." They visit twice a year, and Hardman attends figure skating competitions when two of Trinh's three daughters compete. The girls aspire to become Olympic skaters.

With Hardman's help, Diep learned English and worked part time. She passed the high school equivalency test and went to college in Illinois. Huu attended the University of Missouri at Rolla.

Not speaking English very well, college was not easy for Diep. "I had to work 10 times as hard as the American kids to understand and remember what I needed to learn," Diep says. Diep now holds a doctorate degree in chemistry from the University of Missouri at Rolla. Huu has a master's in engineering from the same institution, and is working on his doctorate.

While attending the University of Missouri, Huu accepted a co-op position with the Marshall Center. He returned to the university to complete his master's, and Diep was hired at Marshall. After Huu finished his degree, he followed Diep to Marshall, where they have both worked nearly 13 years.

But neither has forgotten their Vietnamese roots.

"When we decided to get married, Huu wrote to his family in Vietnam," Diep recalls. "The two families got together and had a big traditional Vietnamese wedding, but the bride and groom were in the United States."

The Trinhs send money to their families in Vietnam, and just last year, Huu took Hardman to Vietnam for a three-week vacation to celebrate the Chinese New Year — and get to know the Vietnamese side of the family. Diep says she "is a dutiful daughter."

Families on both sides of the Pacific are proud of Diep's accomplishments.

"My sponsor is so proud of me for what I have accomplished," Diep says. "I look back at the hard work and sacrifices I had to make to get to where I am today. People look at us and see a successful family, but they may not understand what we had to overcome to get to where we are. I have taken my children to Vietnam twice so that they can see how it is there, and appreciate the advantages they have in America."

April 30 marked the 25th anniversary of the fall of Saigon.

"When I watch the news, it always brings back the memories of Vietnam," Diep says. "Some of them are good, some not so good. I am glad I came to the United States, but I hope that some day I can go back to Vietnam to help the people over there, provided the political climate becomes more friendly.

"In my opinion, the South Vietnamese people very much appreciate what the American people did to help them during the War," Diep said. "I know the Americans have good hearts. They have given me a chance to follow my dream of going to school and being successful. I would not have been able to do that if I had stayed in Vietnam."

The writer, employed by ASRI, is the Marshall Star editor.

Safety walk-throughs identify safe, unsafe acts, conditions

The following are frequently asked questions employees have about safety self-inspections.

Q: Why should safety self-inspections be performed?

A: A walk-through of work areas helps to identify safe and unsafe acts and conditions, and checks the facility for safety and health hazards.

Q: Who should be doing the self-inspections?

A: Everyone should inspect his or her area from time-to-time, a daily observation is good. Supervisors are required to perform a monthly walk-through of work areas, observing employees performing tasks or assignments; and checking the facility and its contents for safety and health. Supervisors should ask an employee to accompany him or her on the walk-through to involve every employee in a walk-through at least annually, and to enhance employee participation in the Marshall Safety Program. For more information, reference MWI 8715.16, "Supervisor Safety Visits."

Q: What should you look for in an inspection?

A: The Supervisors Safety Checklist (MSFC Form 4286) is a good guideline. You should look at the positions and actions of employees performing tasks; types of personal protective equipment being used for the task being performed; tools, equipment and the facilities; written procedures for tasks; and orderliness of the area being inspected. A Job Hazard Analysis is a good written procedure to use for observing tasks being performed. Also, for checklists for specific areas, visit: http://msfcsma3.msfc.nasa.gov/checklists/checklists.html

Q: What should be done if a hazard is found during an inspection?

A: Corrective actions, including initiating a work request or correcting any unsafe acts by an employee, should be initiated for any findings. The corrective action should be tracked to completion. Findings should be recorded on the Supervisor Safety Visit Report (MSFC Form 4389).

Q: Do I need to turn in a copy of the inspection and whom do I turn it in to?

A: On a monthly basis, each directorate should combine the information from each Supervisor's Monthly Safety Visit Form and forward it to the Safety and Mission Assurance Office. It should include the following: (1) number of supervisors on staff, (2) the number of safety visits conducted, (3) the number of safety violations identified, (4) the number of unsafe acts identified, (5) the number of unsafe conditions identified, and (6) the number of positive observations.

What about tracking and results? A Supervisor's Safety Web Page is being developed to help with reporting these activities.

Q: How do I find out more information about safety self-inspections?

A: There are two procedures that will provide more information: MWI 8715.16 Supervisor Safety Visits and MWI 8715.7 Facility Safety Program. The Safety Office also is available to answer questions. Call 544-0046.

Upcoming Events

Fireside Chat — The Marshall Retirees Association will host the last in a series of talks recalling Huntsville's role in defense and space at 7 p.m. May 18 at the University of Alabama in Huntsville's Student Union Building. The event is free and open to the public. May's presentation is entitled, "Space Shuttle & Beyond — 1970-2000 and the Future."

TABES 2000/Economic Summit — The 16th annual Technical & Business Exhibition & Symposium (TABES) and the Tennessee Valley 2000 Regional Economic Summit will be May 30-June 1 at the Von Braun Center in Huntsville. These events are expected to have an impact on understanding of business opportunities, economic potential and federal assets in North Alabama and the Tennessee Valley.

Write in Plain English — A "Write in Plain English" course will be June 13-14 in Bldg. 4200, room G-19. This course focuses on improving writing skills and producing clearly written documents. The course is tailored to meet individual needs. Attendees should submit a two-page work sample to Stephanie Elliott, CD20, no later than May 31. Civil servants should register via AdminSTAR.

Cooperative Education Conference — The 35th annual Southeast Regional Cooperative Education Conference will be May 17-19 at the Huntsville Hilton Hotel. Learn about the latest technology and marketing strategies to attract today's secondary, college and international students for cooperative education programs. The registration fee of $250 covers the cost of conference workshops and meals. Professional tours, golf, tennis and area interest tours will be offered. For more information, call Alabama A&M University, Sarah Ford, at 851-5690 or download the registration form from the conference Web site at: www.coop.gatech.edu/SERCEC.html

Advanced Space Propulsion Workshop — The Marshall Center and the Jet Propulsion Laboratory in Pasadena, Calif., are co-sponsoring the 11th Advanced Space Propulsion Research Workshop May 31-June 2. This year's workshop will be at the Laboratory. Speakers from NASA, Department of Defense, Department of Energy, industry and academia will discuss the latest advanced propulsion research and technology development activity. Topics include space sails, tethers, beamed energy, antimatter, ion drives and solar thermal propulsion. For more information, visit the Web site at: http://apc2000.jpl.nasa.gov/

Employee Ads

Miscellaneous

★ Canary, male, red, orange and white, 1 yr. old, good singer, $60. 534-5653
★ Lowe EZ loader trailer, 16'; Suzuki Evinrude, T.M., 40HP; Hummingbird fish-finder, custom carpeted, live well. 881-6143
★ Sears treadmill, Proform dual action, digital time, distance, calorie counter, $175. 828-3633
★ Car-top bike carrier, holds four bikes, $45. 882-3777
★ Kenmore heavy duty dryer, almond, $75. 233-4059
★ Direct TV satellite system in working condition, needs no antenna. 776-5031
★ Glass dining table, oval, beveled, glass butterfly legs, 72" x 36", 3" thick, 29" high, $500. 772-0558
★ Whitesburg pool membership, located on Sanders Rd. near Whitesburg School, $225, annual dues $300. 883-6821
★ Metallica, 2 tickets, Sec. 137, Georgia Dome, 7/7/00, $100 each. 232-4261
★ Craftsman self-propelled mower w/bag, manual, $100; MS Office 97 Pro, $70. 461-8721
★ Friedrich air conditioner, 6500 BTU, never used, $200; dog kennel, 8'x8'x4', 1-yr. old, $150. 881-5093
★ Kettler German made aluminum folding, rolling, tournament ping-pong table w/net and paddles, $195. 971-0571
★ Shopsmith 510 w/lathe, drill-press, saw, sander, bandsaw, jointer, tools, extensions, apron, best offer. 721-4534
★ Kelvinator refrigerator, 18 cu. ft., top freezer, almond, $90. 858-0700
★ Loveseat; rowing machine; 18-speed bike; matching rocker & chair w/ottoman; $50 each. 971-1414
★ Indy 500 tickets, May 28, one-pair, outside of Main Straight, face value, $80 each. 881-0533

Vehicles

★ 1972 VW beetle, $2,995. 851-0893
★ 1989 Buick Century Ltd., 114K miles, 3.3L, V-6, auto, dark blue, am/fm cassette, all power, $1,400. 694-1112
★ 1995 Cadillac Sedan Deville, 50K miles, all power, $17,000 obo. 353-6358/386-7231
★ 1993 Chevrolet Cavalier station wagon, 110K miles, red, a/c, all power, $2.800. 726-8645/859-1547
★ 1987 Porsche 924S, white, 5-speed, var-PS, sunroof, 74K miles, one-owner, 30 mpg, alloys, $5,600. 828-6213
★ 1999 BMW 328i, silver, 5-speed, sport pkg., leather, sunroof, CD, power equip., factory warranty, $33,500. 859-3686
★ 1997 Mitsubishi Eclipse GS, alloy wheels, leather, moon-roof, 6-CD changer, 54K miles, keyless entry, $12,800. 990-2050
★ 1991 Miata, convertible, new paint & top w/glass window, $5,400 obo. 895-2959
★ 1999 Explorer Sport, white, CD, 2WD, automatic, 47K miles, warranty to 75K miles, $18,000. 828-9861
★ 1996 Gulfstream Innsbruck 21' travel trailer, $8,400. 881-5093
★ 1988 28' Class-A Allegro, basement, new tires & batteries, awnings, hydraulic level-aligned, disc brakes, $21,750 negotiable. 881-3661
★ 1999 Ford Ranger w/extended cab, manual transmission, less than 7K miles. 461-9761 after 5:30 p.m.
★ 1995 Buick LeSabre Limited, one-owner, 64K miles, reasonable offer. 539-3858
★ 1997 Ford F-150 XLT, 4x4, 4.6 V-8, auto, 52K, Warn wench, $15,500 neg. 582-3664

Wanted

★ Carpool, Coldwater/Taft TN, along Old Railroad Bed Road, non-smoker, 7 a.m. to 3:30 p.m. 931-433-3433
★ Good used trumpet for beginner. 859-9856

Free

★ To good home. 1-year-old male boxer w/papers. 881-8836

Center Announcements

☞ ***Stamp Out Hunger* —** The National Association of Letter Carriers and the U.S. Postal Service in Huntsville and Madison County are participating in the "Stamp Out Hunger Food Drive" Saturday. Nonperishable food items may be placed near or in the mailbox for pickup by the carriers. All collected food will be donated to the Food Bank of North Alabama and other food pantries for distribution to needy families in North Alabama.

☞ ***Shuttle Buddies* —** The Shuttle Buddies will meet for breakfast at 9 a.m. May 22 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757 or Gail Wynn at 852-8189.

☞ ***Blue Cross/Blue Shield Visits* —** The federal Blue Cross/Blue Shield representative will be at the Center from 9-11 a.m. May 17 in Bldg. 4200, room 329 to assist employees with questions and claims.

☞ ***MESA Meets* —** The Marshall Engineers and Scientists Association (MESA) will meet at 11:30 a.m. in Bldg. 4471, room C-105, May 18. Refreshments will be served.

☞ ***NARFE Meets* —** The National Association of Retired Federal Employees (NARFE) will meet at 9:30 a.m. Saturday at the Senior Center on Drake Avenue. Darrell Baker, director of the Telecommunication Division of the Alabama Public Service Commission, will speak. For more information, call 837-0382 or 881-3168.

☞ ***Housing for Students* —** Students for various educational programs for summer 2000 soon will be coming to Huntsville. These undergraduates and graduates require temporary housing, usually one month to 10 weeks. If you have lodging options available for these students, please contact Frank Brannon, Education Programs Department, at 544.5920 or by e-mail at frank.brannon@msfc.nasa.gov

Sports

☞ ***MARS Fishing Club* —** Results of last Saturday's bream tournament are: First place — Charlie Cothran and Ross Evans, 26.55 pounds; second place — Deon Smith and Shirley Smith, 20.56 pounds; third place — Alex Rawleigh and Ken Anthony, 18.09 pounds; Big Fish — Charlie Cothran and Ross Evans, 1.09 pounds. The next bass tournament will be May 20 on Guntersville Lake. For information, call Ross Evans 961-2305, Don McQueen 544-9073 or Charlie Nola 544-6367.

☞ ***NASA Ski Week* —** The 10th annual NASA Ski Week will be hosted at Snowmass Jan. 20-27, 2001. Skiers from eight NASA centers will gather at this Colorado resort for camaraderie and winter sports at four different resorts constituting 4,800 skiable acres (including Aspen). Marshall employees, on-site contractors, retirees and dependents may participate. For more information, call 1-233-0705, or e-mail at: Thomas.S.Dollman@msfc.nasa.gov

Job Opportunity

CPP 00-55-CL, Operations Support Specialist, GS-301-12, Engineering Directorate. Closes May 16.

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